

SYSTEM AND METHOD OF INTERACTIVE EVALUATION  
OF A GEOMETRIC MODEL

ABSTRACT OF THE DISCLOSURE

A system and method of interactive evaluation of a geometric model is provided. The method includes the steps of acquiring a haptic device position and orientation with respect to a surface of the geometric model and mapping the haptic device position and orientation into a geometric model coordinate reference system. The method also includes the steps of determining a closest point position and orientation on the surface of the geometric model to the haptic device position and extracting a surface property at the closest point position and orientation. The method further includes the steps of determining a stick-to-surface force and a property feedback force using the surface property at the closet point position and orientation and applying the stick-to-surface force and property feedback force to control a location and force output of the haptic device.

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